Govt. of Madras

85,002—11-8-53.

~~Home~~ PUBLIC (1955) Department.

Proceedings of the D.C.D } NO. 1775 RDP VII/55-1

Dated 8-3-1955

Passed
11/3/55

~~Passport Order No.~~

Further papers
~~Lodged~~ No. 127/3 Pub
(RDP VII)/54 dt. 19/3/1955.

~~Dated~~

"

to 63. B. com. devt. Projects - NES and L.D. works - 1. com. devt. Projects ~~under~~ ~~Extension~~ under C - Agriculture and Animal Husbandry (Extension) 2 Other charges", and should be counted against the provision made in the overall programme of the S.K. Project Area.

(8.5.55)

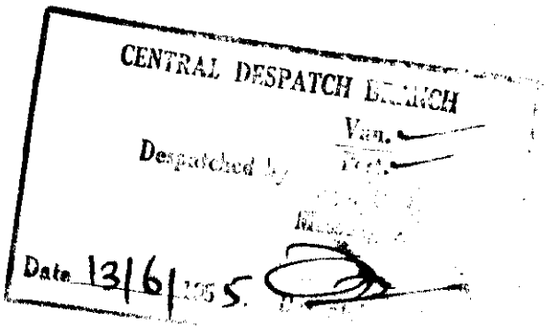
1
24.5.55

1/6/55

Ur
1.6.55

To

The P.E.O, Mangalore.
The A.G. (thro' Fin.
Copy to the A.G. (by name.
" ~~D.A.~~, Madras.
" ~~Auth~~ RPP VII & V
2 Secs. "



Ref.C.No.1425/54-B.

Project Executive Office, S.K., 2-
Mangalore, Dated 10--2--1955.

From
Sri. T. Narasimha
Project Executive Officer,
South Kanara, MANGALORE.

To
The Director of C[illegible]
Development,

Sir,

Community Project--South Kanara Area--Block III--Communications--Construction of a bridge at Muddugundi across Mathibettu stream on Mudradi-Kabbinale road--Estimate--Sanction--Requested.

I am herewith submitting an estimate in duplicate with necessary plan for the construction of a R.C.C. deck slab bridge at Muddugundi across Mathibettu stream on Mudradi-Kabbinale road in Block III of Karkal Taluk. The particulars required are furnished below:

1. Block:	III.
2. Name of work:	Construction of a R.C.C.Deck slab bridge at Muddugundi across Mathibettu stream on Mudradi-Kabbinale road.
3. Whether the work is approved and included in the Overall Programme?	Yes. It corresponds to item No.14 in Block III under Katcha roads.
4. Estimated cost:	Road work: Rs. 1450[illegible]/- Culverts: Rs. 17520/- Bridges: Rs.24250/-
5. Villagers contribution:	Rs. 14,500/-
6. Expenditure to be borne by Community Project:	Rs. 24,250/- for the bridge. Rs. 17,520/- (for culverts dealth with separately.)

Remarks: The work relates to the formation of a road, 6 miles long from Mudradi to Kabbinale village in Block III of Karkal Taluk. It involves the construction of 19 culverts and a bridge. Kabbinale is one of the most backward villages lying in the inland belt at the foot of the western ghats. The ~~road now formed~~ nearest main road is the Karkal-Someshwar highway road and the road now formed by the villagers joins this road. The village is inhabited mostly by 'Male-Kudiyas' (Hill tribes) who are cultivating tenents, some of them being petty land owners. The main produce of the village is arecanuts. The village is deficit in rice. Basket making is a subsidiary occupation. An appreciable part of the village is covered by Reserve Forests. There was not even a cart-track through the village till now. The villagers had to remain isolated from the rest of the world for ~~six~~ six months in the year and had to convey their produce only by headloads to a distance of 6 to 8 miles to reach the main road only in the fair season.

Y.T.O.

Issue
d
17/6/55

Pub (ROP XI) dept.

Memo. No. 1537/55-6 dt. 17-6-55.

cPs - South Kanara Project Area.
Agricultural staff - Supply of
a jeep with trailer - Proposal
not accepted.

Ref: From the P.E.O, Mangalore,
Ref. C.No. 2933/SM-C. dt. 5.5.55.

—

With reference to para
5 of his letter cited, the P.E.O,
~~Coorg~~ Mangalore is informed that
~~The Govt do not consider it~~
it is not possible
~~necessary~~ to supply an addl.

PTO

Specification Report to accompany the estimate for constructing a bridge at Muddugundi across Mathibettu stream in Mudradi Kabbinale Road.

General:- Kabbinale Village is situated in the remote corner near the Western Ghats. At present a katcha road has been formed by the villagers. There is a stream crossing on this road, thus making it unfordable during monsoon season. It is therefore proposed to construct a bridge across this stream and thus meet the long felt need of the surrounding villagers. The bridge will be constructed by the Community Projects Department.

Site:- The bridge is proposed to be constructed nearly 100'0" up stream of the present crossing, where the banks are well defined.

Type:- The proposed bridge will have 2 spans of 30'0" each with R.C. slab decking.

Foundation:- Trial proving at the proposed bridge site indicated that sheet rock is not available up to 6'0" below bed level. The nature of the soil is sand mixed with shingle and large boulders. From the pressure calculations it is found that the pressure on foundation soil at 8'0" below bed level is 1.3 tons / sq. ft. and this is within the bearing power of the soil. From the scour calculations it is found that the depth of foundation safe against scour is 5'0" below bed level. But the foundation is proposed to be taken 6'0" below bed level if rock is not met within that depth. The foundation consists of cement concrete 1:3:6, 2'0" thick and C.R. masonry II sort in C.M.1:5.

Sub-structure:- The abutments, wings and peirs up to level 88.00 will be built with C.R. masonry II sort in C.M.1:5. The top width of abutment will be 3'0" and bottom width 6'6" based on the formula of 0.4H + 1. A front batter of 1 in 12 and suitable batter at the rear is provided for abutment. The bank on the left side is well defined with firm fields on the rear, and hence the wing wall on this side is dispensed with. The peirs from the level 88.00 to 99.00 will be built with C.R. masonry I sort in C.M.1:5.

Superstructure:- The superstructure will be of R.C.C.1:2:4, 25" thick designed for I.R.C.B.class loading for 30'0" clear span.

7 A

The clear road width will be 12'0". The wearing surface will consis of cement concrete 1:1½:3, 3" thick, properly cambered so as to slope towards the edges for drainage purposes. Provision has been made for wheel guards 0'9" x 0'11" and R.C. posts of 0'5" x 0'7" and hand rail 0'5" x 0'6"

A lumpsum provision has been made baling ~~a~~ out water during execution, where heavy springs are ~~rejected~~ expected construction of tempora shed for storing materials and blasting and benching rock, etc. Pr vision for an irrigation culvert on the right approach is necessary and is included in the L.S. provision. Estimate for constructing drainage culvert will be submitted separately during execution.

The whole work will be carried out as per M.D.S.'s and other relevent circulars.

Sd. A. S. Shetty

Junior Engineer,
Community Projects,
Karkal.

Sd. Ly. S. Ramanathan
Assistant Engineer (P)
Karkal.

Approved.

K/m

Divisional Engineer (4)
Community Projects
Manjeshwar.

Pressure Calculations.

Dead load.

Wt of deck slab = $33 \times 13'6'' \times 2'-1'' \times 150$ = 1,39,219 lbs.

Wt of kerbs = $2 \times 33 \times 0'-9'' \times 0'-11'' \times 150$ = 6806 lbs.

-do- wearing coat = $36 \times 12 \times 0'3'' \times 140$ = 15120 lbs.

Live load : (3600 + 15000 + 15000 + 7000) = 42600 lbs.

Wt of bed block = $14'0'' \times 2'0'' \times 1'0'' \times 140$ = 3920 lbs.

∴ Total load on masonry Pier at level 99.00 } = 2,07,665 lbs or 93 Tons.

Bearing area = $2 \times 13'6'' = 27$

∴ Pressure on masonry = $\frac{93}{27} = 3.5$ T/sq.ft.

But CR masonry in C.M. mortar can take a weight of 8 to 10 tons.

Hence the section of pier adopted is safe.

Pressure on foundation Soil :

Weight of superstructure as calculated above 2,07,665 lbs

Wt of masonry Pier 94.00 to 99.00 = $16'0'' \times 20'0'' \times 5'0'' \times 140$

88.00 to 94.0 = $16'6'' \times 21'6'' \times 6'0'' \times 140$

86.00 to 88.0 = $17'0'' \times 31'0'' \times 21'0'' \times 140$

84.00 to 86.0 = $18'6'' \times 26'6'' \times 21'0'' \times 140$.

82.00 to 84.0 = $18'0'' \times 40'0'' \times 21'0'' \times 140$ } 1,08,660 lbs

Wt of foundation cement = $20'0'' \times 6'0'' \times 21'0'' \times 140$ = 33600 lbs.

∴ Total load on foundation soil under pier } = 3,49,925 lbs. or 156 Tons

Bearing area = $20'0'' \times 6'0'' = 120$ Sq.ft.

∴ Pressure on foundation Soil = $\frac{156}{120} = 1.3$ Tons/sq.ft

The nature of foundation soil is loose sand mixed with boulders. This can take a pressure of 1.5 to 2.5 Tons / sq.ft. Hence the foundation is safe.

10

calculation for scour.

The max depth of scour below MFL is given by the formula $D_1 = \frac{2 \cdot 1 \times v^2}{f}$

where v = hydraulic mean depth.

v_2 = velocity thro' vents after the bridge is constructed.

v = velocity of the stream before the bridge is constructed.

$\therefore D_1 = \frac{2 \cdot 1 \times 5 \times 11 \cdot 1}{10 \cdot 3} = 11 \cdot 1'$ safe

The depth of foundation below MFL is given by the formula $D_2 = 1\frac{1}{3} D_1$

$= \frac{4}{3} \times 11 \cdot 1$

$= 14 \cdot 8'$ or $15' 0''$

MFL = 98·00.

Hence the foundation should be taken 15'0" below MFL i.e 83·00.

But in the case the foundation is proposed to be taken to 80·00. Hence the depth of foundation adopted is safe against scour.

Bottom width of abutment.

Road level = 102·33.

Sill level = 88·00

Difference h = 14·33

$\therefore 0 \cdot 4h + 1 = 5 \cdot 7 + 1 = 6 \cdot 7$ or $\underline{6'6''}$.

A Sheik
20/1/55
Junior Engineer (P)
Kanhal

M Ahmed 21/1

M Ahmed 9.2
Divisional Engineer (4)
Community Projects
Mangalore

Design of deck Slab.

Clear Span = 30'0"

Effective Span = 30 + 2·08 = 32·08.

Impact factor = $\frac{15}{20+32.08} = 0.3$.

Intensity of load per foot width of Slab for 15000 lb load $= \frac{15000 \times 1.3}{12}$

$= 1625$ lb.

For 9000 lb load $= \frac{9000 \times 1.3}{12}$

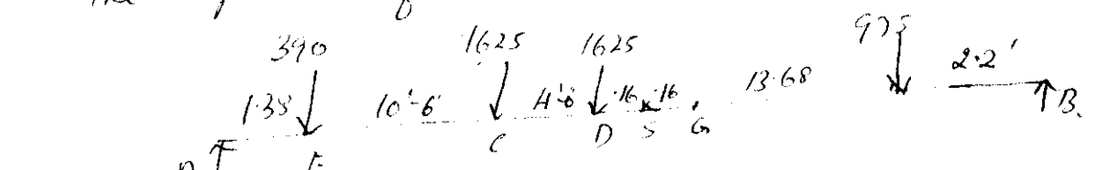
$= 975$ lb.

For 3600 lb load $= \frac{3600 \times 1.3}{12}$

$= 390$ lb.

For max BM the centre of span should be equidistant to the C.G of the loads coming over it and to load under which the max BM occurs.

The disposition of the loads will therefore be.



$R_B \times 32·08 = 390 \times 1·38 + 1625 (11·88 + 15·88) + 975 \times 29·88$

$R_B = 2331$ lb.

Max BM at D $= (2331 \times 16·2 - 975 \times 14) 12$

$= 2,89,440$ in lbs

2nd load

Deck Slab $= \frac{25}{12} \times 150 = 313$

Wearing Coat $= \frac{3}{12} \times 140 = 35$

348 say 350 lb

B.M. due to dead load $= \frac{350 \times 32·08 \times 32·08 \times 12}{8}$

$= 5,40,300$ in-lbs

Total BM $= 8,29,140$ in lbs.

Resisting moment $= 125·74\, bd^2$

$d = \sqrt{\frac{829740}{125·74 \times 12}}$

$= 23·46"$

12

$W_b = 0.008\ bd$

$= .008 \times 12 \times 23.46$

$= 2.25\ kg$

Hence provide 1" ø bars at 4" c/c throughout

in span @ 226 kg.

Overall depth = 23.46 + 1.5 = 24.96"

≈ 25"

To resist negative B.M. at support & throughout

bar bent at 0.15 L = 4'6" from

support.

Weight = $\frac{1 \times 2.25}{5^2} = 0.41\ kg$.

Hence use ½" ø bars at 5½" c/c throughout

span @ 0.43 kg.

Asstt Engr
20/1/55
Junior Engineer
Mangalore.

Executive Engr
20/1/55

Divisional Engineer (H)
Community Project
Mangalore.

Cross sectional area of waterway = 650

Wetted Perimeter = 130'

∴ Hydraulic mean depth $\frac{A}{P} = \frac{650}{130} = 5.$

Bed Slope $= \frac{88.63 - 85.03}{200} = 0.018$

Adopting Mannings formula $v = \frac{1.486 \times r^{2/3} \times s^{1/2}}{0.035 n}$

Velocity $= \frac{1.486 \times 5^{2/3} \times 0.018^{1/2}}{0.035}$

$= 10.3'/sec$

∴ Discharge $= 650 \times 10.3 = 6695$ cusecs.

M F L = 98.00

Average bed level = 88.00

Depth of flow = 10.00.

Adopting a linear waterway of 60'0" being the average width of the stream on the upstream and downstream side

Velocity through vents $= \frac{6695}{60 \times 10} = 11'/sec.$

This is permissible.

A.T. Kelly
18/1/55.
Junior Engineer CP Kasaragod

18/1/55

Divisional Engineer (N)
Community Projects
Mangalore.

DETAILED ESTIMATE.

C.F—150 (1)—284,218—28-1-54.

Village and Survey — Taluk

Name and number of work — Date and cost of original construction

Constructing a bridge at Muddugundi across Mathibetta Stream in Angadi — Date and cost of last repairs

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
I. Earthwork in mixture of gravel and disintegrated rock for foundation						
	2	20'-0"	10'-1"	10'-5"	1410	
	2	2'-9"	1'-6"	5'-0"	226	
	1	23'-0"	6'-6"	5'-0"	1040	5
	2	21'-0"	6'-0"	2'-0"	504	
	2	5'-0"	1'-6"	1'-0"	75	
	1	20'-0"	6'-6"	2'-0"	260	11

DETAILED ESTIMATE.

C.F.—150 (1)—304,218—30-1-64.

District — Taluk

Village and Survey — Date and cost of original construction

Name and number of work — Date and cost of last repairs

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
Piers 82.00 to 84.00	1	18'-0"	4'-6"	2'-0"	162	
84.00 to 86.00	1	17'-6"	4'-0"	2'-0"	140	
86.00 to 88.00	1	17'-0"	3'-6"	2'-0"	119	
IV C.R. Masonry I Sort in CM 1:5 including cost and conveyance of all materials to site Piers.						4678 or 4700 cft.
88.00 to 94.00	1	14'-0"	3'-0"	6'-0"	252	
end watus	2	$\frac{22}{7}$ ×	$\frac{(3'-0")^2}{4}$ ×	$\frac{1}{2}$ ×6'-0"	42	
94.00 to 99.00	1	14'-0"	2'-6"	5'-0"	175	
end watus	2	$\frac{22}{7}$ ×	$\frac{(2'-6")^2}{4}$ ×	$\frac{1}{2}$ ×5'-0"	25	
Pilasters	2×2	1'-6"	1'-6"	3'-0"	27	
V cement concrete 1:2:4 using $\frac{3}{4}$" hard granite jelly for bed block Abutments	2	13'-6"	1'-6"	1'-0"	41	521 or 550 cft

Details of work.	Number.	Measurement in feet.			Area or contents.	Total quantity of each description of work.
		Length.	Breadth.	Depth.		
Piers	1	14'-0"	2-6"	1'-0"	35	
coping over Pilasters.	2×2	1'-9"	1'-9"	0'-4"	4	80 or 100 cft.
VI R.C. 1:2:4 using $\frac{3}{4}$" hard granite jelly including cost and conveyance of all materials to site						
for (a) deck slab	1	65'-6"	13'-6"	2'-1"	1842	
" Kerbs	2	65'-6"	0'-9"	0'-11"	90	
(b) hand rails	2×2	65'-6"	0'-5"	0'-6"	54	1932 cft
" Posts	2×18	0'-5"	0'-7"	3'-6"	31	85 cft.
Cement concrete 1:1½:3 using 66⅔% $\frac{3}{4}$" jelly including cost and conveyance of all materials to site for bearing coat	1	68'-6"	12'-0"	0'-3"	206	206 cft.
Earthwork in hard gravelly soil for forming approach road.		L.S.				10,000 cft.

C. W. 150 (a)

19

DETAILED ESTIMATE.

C.F—180 (I)—204,813—20-1-54.

District | Taluk

Village and Survey | Date and cost of original construction

Name and number of work | Date and cost of last repairs

Details of work.	Number.	Measurement in feet. Length.	Breadth.	Depth.	Area or contents.	Total quantity of each description of work.
III Rough stone dry packing for toe walls Right Side	2	40'-0"	2'-0"	2'-0"	320	
Rear wall	2	25'-0"	1'-0"	17'-0"	850	
Approach road	2	25'-0"	7'-0"	8'-0"	400	1570 or 1600 cft.
IX contingencies Such as baling out water, construction of temporary shed for storing materials and unforeseen items Such as blasting and clearing rock etc.		L.S.				
Petty Supervision charges		L.S.				

Sd. by S. Ramanathan
Assistant Engineer CP
Karkal

Sd. A. S. Shetty
Junior Engineer CP
Karkal.

11/2
Divisional Engineer (PH)
Communication Circle Mangalore.

(6 Section of Road

P.W.D. Old No. V-13, New IV-4-A—55,845—27-7-54.

ESTIMATE FORM—Abstract.

Item number. (1)	Quantity. (2)	Description of work. (3)	Rate. (4)	Per. (5)	Amount. (6)	Total. (7)
			RS.		RS.	RS.
		Earthwork in cutting grave and in side slopes 4'0"				
	6000 cft	Earthwork in cutting grave and in side slopes 4'0"	0-25	100 cft	151/	
	1150 cft	Cement Concrete 1:3:6 using 1½" hard granite jelly B.S.S. Size including Cost and Conveyance of all materials to site for foundation	170-00	100 cft	1955/	
	950 cft	C.R. masonry in cement M 1:5 including Cost and Conveyance of all materials to site for	163-00	do	1547/	
	4200 cft	C.R. masonry in cement M 1:5 including Cost and Conveyance of all materials to site for	144-00	do	6048/	
	4200 cft	Cement Concrete (1:2:4) using ¾" hard granite jelly including Cost and Conveyance of all materials to site for Bed Blocks and Coping				
	108 cft	Cement Concrete.	242-00	100 cft	262/	
	1794 cft	Rubble masonry in Cement Concrete (1:2:4) mix using ¾" hard granite jelly including Cost and Conveyance of all materials to site for	5-00	Cft	9662/	
	55 cft	[illegible]	14-00	Cft	770/	
		[illegible]				
		[illegible]				
		[illegible]				

20,195

ESTIMATE FORM—Abstract.

Item number. (1)	Quantity. (2)	Description of work. (3)	Rate. (4)	Per. (5)	Amount (6)	Total. (7)
			RS.		RS.	RS.
				B/F	20705	
2000 sft		Site for wearing Coat- Rough stone dry packing for the walls and revetment including Cost and Conveyance	28-00	100 sft	577/	
1000		materials to site Pavement in hard gravelly soil for formation of road	50-00	1000 sft	500/	
10,000			25-00	100 cft	2497/	
		Contingencies such as Baling out water, Construction of temporary shed for storing materials, Breaking and Breaching granite			1211	
Lump		Rock drill and other provision of irrigation Contract Rate of				
L.S.		Petty Supervision Charges			500	
					24,250	
		Rupees Twenty-four Thousand and two hundred and fifty only.				
		sd. G. S. Ramanathan Asst Engineer CP. Tarkal.	(sd)		A. S. Shetty 23/1/54	

Technical sanction accorded for Rs24250/- (Rupees Twenty four thousand and two hundred and fifty only) in DR No 27 CP/54-55.

O/C Countersigned

1.3.55

Divisional Engineer (H) Community Projects Mangalore

P.W.D. V.13—67,416—20-6-

ESTIMATE FORM—Abstract.

Item number. (1)	Quantity. (2)	Description of work. (3)	Rate. (4)	Per. (5)	Amount. (6)	Total. (7)
			RS.		RS.	RS.
		Lead Statement.				
		Rough stone, broken stone, & metal cart load and ½ furlong head load from Mangalore 5½ miles M.R, 4 miles cart track				
		Sand from Kali 5 miles M.R, 4 miles cart track and 2 furlongs head load				
		Steel and cement from Mangalore 5½ miles M.R, 4 miles cart track				
		Cost of materials including lead.				
		Rough stones – S.I. 22 A.	16-0-0	100 cft	16-0-0	
			13-3-0		13-3-0	
		Lead – 1½ miles by C.T + ½ lg by head load.	21-10-0	100 cft	21-10-0	29-3-0
					37-10-0	5-13-5
		20% extra for special locality			7-8-5	
					45-2-5	35-0-5
		Coursed rubble stones – II Sort S.I. 23 B.	28-00	100 cft	28-0-0	
			13-3-0		13-3-0	
		Lead as above.	21-10-0	100 cft	21-10-0	41-3-0
					49-13-0	8-3-10
		20% extra for special locality			9-14-10	49-6-10
					59-8-10	59-8-10
		C.R. Stones for I Sort Work S.I. 23 A.	38-00	100 cft	38-0-0	
			13-3-0		13-3-0	
		Lead as above.	21-10-0	100 cft	21-10-0	51-3-0
					73-13-0	10-3-10
		20% extra for special locality			14-11-10	61-6-10
					88-8-10	88-8-10
		1½" metal 1355 Sqr. S.I. 33 C.	23-00	100 cft	23-0-0	
			13-3-0		13-3-0	
		Lead as above.	21-10-0	100 cft	21-10-0	36-3-0
					44-10-0	7-3-10
		20% extra for special locality			8-14-10	43-6-10
					53-8-10	53-8-10
		1" metal – S.I. 33 P.	30-00	100 cft	30-0-0	
			13-3-0		13-3-0	
		Lead as above.	21-10-0	100 cft	21-10-0	43-3-0
					51-13-2	8-10-2
		20% extra for special locality			10-5-2	51-13-2
					61-15-2	61-15-2

ESTIMATE FORM—Abstract.

Item number. (1)	Quantity. (2)	Description of work. (3)	Rate. (4)	Per. (5)	Amount (6)	Total. (7)
			Rs.		Rs.	Rs.
		3/4" metal - S.S.33 m	42-0-0	100 cft	42-0-0	
		Lead - as above	13-3-0 / 21-10-0	100 "	21-10-0	13-3-0
		20% extra for Special locality			63-10-0 / 12-11-7	55-3-0 / 11-0-7
					76-5-7	66-3-7 / 76-5-7
		1/2" metal - S.S.33 A	55-0-0	100 cft	55-0-0	
		Lead as above.	13-3-0 / 21-10-0	100 "	21-10-0	13-3-0
		20% extra for Special locality			76-10-0 / +5-5-2	68-3-0 / 13-10-2
					71-15-2	81-13-2 / 71-15-2
		Sand	2-8-0	100 cft	2-5-0	
		Lead for metalled road - S.S.	25-12-6 / 39-12-6	100 "	25-12-6 / 39-12-6	
		Lead for Cart track & Lead bond	30-14-0	100 cft	30-14-0	
		20% extra for lead for Cart track on metalled road if in Special locality			6-2-10 / 6-10-16 / 79-8-4	65-5-4 / 79-8-4
100 cft		cement.	98-8-0	Ton	394-0-0	
		Lead for metalled road	119-12-6 / 11-12-6	100 "	119-12-6 / 11-12-6	
		Lead for Cart track	25-5-0	100 cft	25-5-0	
		20% extra for lead for Cart track being Special locality			5-1-0 / 542-2-6 / 544-2-6	544-2-6 / 542-2-6
1 lb		Steel	20-0-0 / 27-3-0	Cwt	0-2-10 / 0-0-5	
1 lb		Lead for metalled road	15-15-0	100 lb	0-0-3	
		Lead for Cart track including	6-1-1	100 lb	0-0-1	
		20% extra for Special locality.				
		Bending rods & tying grills				
		including 20% extra for Special locality	6-14-5	Cwt	0-1-0 / 0-4-4	0-4-4

P.W.D. V–39—57,603—4-4-31.

Data sheet to accompany the estimate for———

Quantity.	Description of work.	Rate. Rs.	A.	P.	Per	Amount. Rs.	A.	P.	Total.
I.	Earthwork in excavation of gravel and disintegrated rock for foundation — S.I. 16 2.	25	2	0	100 cft	25	2	0	
	20% extra for special locality					5	0	5	
						30	2	5	30-2-5
II.	Blasting rock boulders — 6 & S.I.	25	0	0	100 cft	25	0	0	
	20% extra for special locality					5	0	0	
						30	0	0	
III	Benching granite rock 0' 4" deep — S.I. 7d.	1	4	0	Sft	1	4	0	
	20% extra for special locality					0	4	0	
						1	8	0	1-8-0
IV.	Cement concrete 1:3:6 laying 4" thick granite pitch for foundation								
12 cft	Broken Stone 1½ BSS	43 ~~53~~	6 ~~8~~	10	100 cft	39 ~~44~~	15 ~~4~~	2 ~~3~~	
46 cft	Sand	65 ~~79~~	5 ~~5~~	4	100 cft	21 ~~36~~	2 ~~7~~	11 ~~11~~	
15⅓ cft	Cement	544 ~~544~~	2 ~~2~~	6 ~~0~~	do	83 ~~83~~	7 ~~7~~	1 ~~1~~	
½ no	Mason II class	2	12	0	each	1	6	0	
2 nos	Man Magdoor	1	8	0	do	7	8	0	
4 nos	Woman Magdoors	0	13	0	do	3	4	0	
46 cft	Mixing mortar	4	8	0	do	2	1	1	
	20% extra for labour charges for special locality					2	13	5	
	Sundries					0 ~~0~~	5 ~~10~~	4 ~~11~~	
						0	1	3	
						186	0	0	120-0-0
V	C.R. masonry II sort in C.M. 1:5								
1600 cft	C.R. Stones including hand Stones	59 ~~43~~	8 ~~6~~	10 ~~10~~	100 cft	36 ~~17~~	0 ~~8~~	1 ~~3~~	29-10-6.
1500 cft	Rough Stone	~~53~~ 45	~~2~~ 2	~~5~~ 5	do	~~22~~ 17	~~1~~ 8	~~3~~ 3	
132 cft	Sand	65	5	4	do	20	14	6	
31 cft	Cement	~~99~~ 54½	~~5~~ 2	~~4~~ 6	do	~~15~~ 34	~~6~~ 15	~~2~~ 5	
1 no	Mason II class	2	12	0	each	19	4	0	
14 nos	Man Magdoors	1	8	0	do	6	0	0	
14 nos	Woman Magdoors	0	13	0	do	3	4	0	
32 cft	Mixing mortar	4	8	0	100 cft	1	7	0	
	20% extra for labour charges for special locality					5	15	0	
	Sundries					~~3-3-4~~ ~~18-11~~			140-0-0
						~~145-0-0~~			~~155-0-0~~

Data sheet to accompany the estimate for———————

Quantity.	Description of work.	Rate. Rs.	A.	P.	Per	Amount. Rs.	A.	P.	Total.
	C R masonry I Sort in C M 1:5 for pier & Abutments								
1110 cft	C.R stones including local stones	61	6	10	✓	~~68~~	~~2~~	~~1~~	67-9-1
		~~71~~	~~8~~	~~10~~	100 cft	78	11	4	
✓ 28 cft	Sand	65	5	4		18	4	8	✓
		~~79~~	~~5~~	~~4~~	do	~~22~~	~~3~~	~~5~~	
✓ 28/5 cft	Cement	54½	2	6	do	~~30~~	~~6~~	~~11~~	
						30	7	9	
✓ 1 no	Mason II Class	✓ 2	12	0	each	27	8	0	✓
✓ 1 no	Woman Maydoors	✓ 0	13	0	do	3	4	0	✓
✓ 14 no	Man Maydoors	✓ 1	8	0	do	6	0	0	✓
✓ 28 cft	Mixing mortar	✓ 4	8	0	100 cft	1	4	2	✓
	20% extra for special locality over labour charges					~~45~~	~~9~~	~~9~~	
						7	9	8	✓
	Sundries					12	0	8	163-0-0
						~~216~~	~~0~~	~~0~~	~~215-0-0~~
	C.C. 1:2:4 with ¾"	~~1~~	~~2~~	~~2~~	~~cft~~	~~201~~	~~0~~	~~0~~	
		66	3	7		60	14	9	✓
192 cft	¾" metal	~~76~~	~~5~~	~~7~~	100 cft	70	3	10	
		65	5	4		29	3	11	✓
146 cft	Sand	~~79~~	~~5~~	~~4~~	do	~~36~~	~~7~~	~~11~~	
123 cft	Cement	54½	2	6	do	12	2	11	
✓ 1 no	Mason II Class	✓ 2	12	0	each	2	12	0	✓
6 nos	Man Maydoors	✓ 1	8	0	do	9	0	0	✓
10 nos	Woman maydoors	✓ 0	13	0	do	8	2	0	✓
✓ 46 cft	Mixing mortar	✓ 4	8	0	100 cft	2	1	1	✓
	20% extra over labour for special locality over Sundries					4	6	3	✓
						0	5	1	
						0	3	4	
						~~258~~	0	0	✓
	R. C. deck slab and beams					242	0	0	242-0-0
1 cft	C C 1:2:4	~~258~~	~~0~~	~~0~~	100 cft	2	~~5~~	~~14~~	
		242	0	0		~~2~~	9	5	
5.7 lb	Steel in bending bending & tying bills.	0	4	¼	lb	1	8	8	
0.78 cft	Centring charges	✓ 0	13	6	cft	0	9	5	✓
						0	8	7	
	Sundries					~~0~~	~~8~~	~~7~~	
						5	0	0	✓
	Hand rails & Post								
1 cft	C C 1:2:4	~~258~~	~~0~~	~~0~~	100 cft	2	5	4	
		242	0	0		~~2~~	~~9~~	~~9~~	
22 lb	Steel in bending bending & tying bills	0	4	¼	lb	5	15	4	
15	Centring Charges					5	8	8	0-3-4
	Sundries					~~5~~	~~8~~	~~8~~	
						14	0	0	✓

P.W.D. V–39—57,603—4-4-51.

Data sheet to accompany the estimate for_____

Quantity.	Description of work.	Rate. Rs.	A.	P.	Per	Amount. Rs.	A.	P.	Total.
	Cement concrete 1:1½:3								66 2/3
	1" metal @ 33⅓ %								
	Wearing coat.								
						31	12	7	✓
184 ft	1" metal	51	13	2	100 ft	37	4	5	
		81	13	2		25	1	6	✓
92 ft	½" metal	65	5	4	do	29	3	11	✓
46 ft	Sand	79	6	4	do	36	7	11	
92 ft	Cement	542	2	6	do	166	14	7	
46 ft	Mixing charges	4	8	0	do	2	1	1	✓
11	Mason Mistry	2	12	0	each	2	12	0	✓
6	Man Mazdoors	1	8	0	do	9	0	0	✓
1 lot	Coolies	0	13	0	do	8	2	0	✓
	20% extra over labour charges for special locality					4	6	3	✓
						0	10	1	
	Sundries.					0	6	5	
						275	0	0	
						280	0	0	
	Rough stone dry pitching for								
110 ft	Rough stones	45	2	5	100	49	10	8	
		35	0	5		38	8	6	✓
1 No	Boulder	3	0	0	each	3	0	0	✓
2 Nos	Man Mazdoor	1	8	0	do	4	8	0	✓
2 Nos	Woman Mazdoor	0	13	0	each	1	10	0	✓
	20% extra over labour charges for special locality					1	13	2	✓
							8	4	
	Sundries.					0	6	2	✓
						61	0	0	200

Asstt Engr
20/1/55

Junior Engineer
Asstt Engr

Asstt Engr
21/1

M Ganesh
9/2

27 Pub(RDP VII)

(C No. 1775/RDP VII/55)

Proceedings of the D. C. D.

No 1775 Pub(RDP VII)/55-1 dt. 8/3/58.

Sub:- Cls. S. Kanara Area. Block III - Communi-cations. Construction of a bridge on the newly formed road from Mudradi to Kalbrinale, across the Mathibettu Stream. - Estimate - Sanctioned

Ref:- From the PEO. Mangalore ref. C. No. 1425/54-B dt 19.2.'55.

Order:-

Sanction is accorded to an expenditure not exceeding Rs 24,250/- (Rupees Twenty four thousand, two hundred and fifty only) being the estimated Cost of Constructing a bridge across the Mathibettu stream on the Mudradi-Kalbrinale road in Karkal Taluk. The kutcha road about 6 miles long has been formed by the beneficiaries themselves at a cost of about Rs 14,500/. The construction of necessary culverts on this road is being dealt with separately. This sanction is emulid against the provision in item II. H. Communi-cations in the budget estimates approved by the CPA. in their letter No CPA 558/5/53 (Bud) dt 6.7.'54

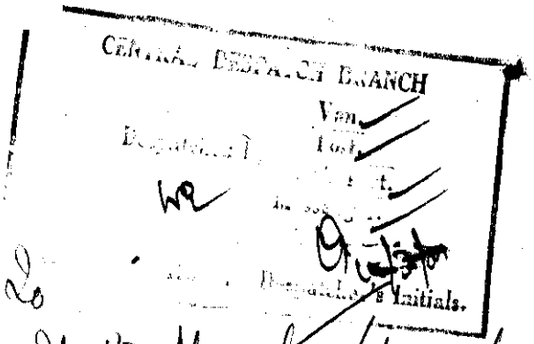
2. The expenditure should be debited to "6 B. C.D. Projects. X j. Communi-cations - 1. Works."

3. The PEO Mangalore is requested to

get the work executed Speedily according to the plan and estimate approved by the D.E(H) Mangalore, which are herewith returned Counter signed

1-3/SF

JN/3/55.



To

The PEO. Mangalore (w.e. by regd post)
The Adv. Madras
Copy to The Secy. CPA Regal Bldgs. N. Delhi
The CE (H) Madras
The AG (by name)
" The Collr. of S. Kanara
Pub RDP. VII, VIII & Tech

SF-III

O.N. Please see the letter from the PEO. Mangalore at pp 1-3 cf. The road from Mudradi to Kabbinale is reported to have been formed by the beneficiaries at their cost. The Construction of the bridge on the road is therefore to be undertaken entirely from CP funds. The PEO has reported that the Construction of 18 small culverts on the road is being dealt with Separately.

The draft proceedings above may please be approved.

The estimate below may also be Counter signed

1-3-55

JN/3/55

JN/3/55

VR 5.3.55

DCR 11/3/55

(Issued as Proceedings No. 17715 RD PVII/55-1 Dated 8/3/55)